

CHAPTER 3

RIGGING DISASSEMBLED 120-MILLIMETER MORTAR IN 1 1/4-TON HMMWV TRUCK ON THE 16-FOOT TYPE V PLATFORM FOR LOW-VELOCITY AIRDROP

3-1. Description of Load

The unrigged 1 1/4-ton HMMWV truck is described in Chapter 1 of FM 10-517/TO 13C7-1-111. The truck is rigged on a 16-foot, type V airdrop platform with two G-11B cargo parachutes for low-velocity airdrop from a C-130, C-141, or C-5 aircraft. The disassembled mortar, weighing 317 pounds, is included in the accompanying load, which is not to exceed 2,000 pounds. The maximum rigged weight of this load is 10,000 pounds.

3-2. Preparing Platform

Prepare a 16-foot, type V platform using four tandem links and 20 clevis assemblies as shown in Figure 2-2 of FM 10-517/TO 13C7-1-111.

3-3. Preparing and Positioning Honeycomb Stacks

Prepare and position the honeycomb stacks as shown in Figures 2-3 through 2-5 of FM 10-517/TO 13C7-1-111.

3-4. Preparing Truck

Prepare the truck as shown in Figures 2-6 through 2-13 of FM 10-517/TO 13C7-1-111.

3-5. Stowing Accompanying Load

Stow the accompanying load as shown in Figure 3-1 of this manual.

CAUTION: Only ammunition listed in FM 10-500-53/TO 13C7-18-41 may be airdropped. Package, mark and label hazardous material according to AFR 71-4/TM 38-250.

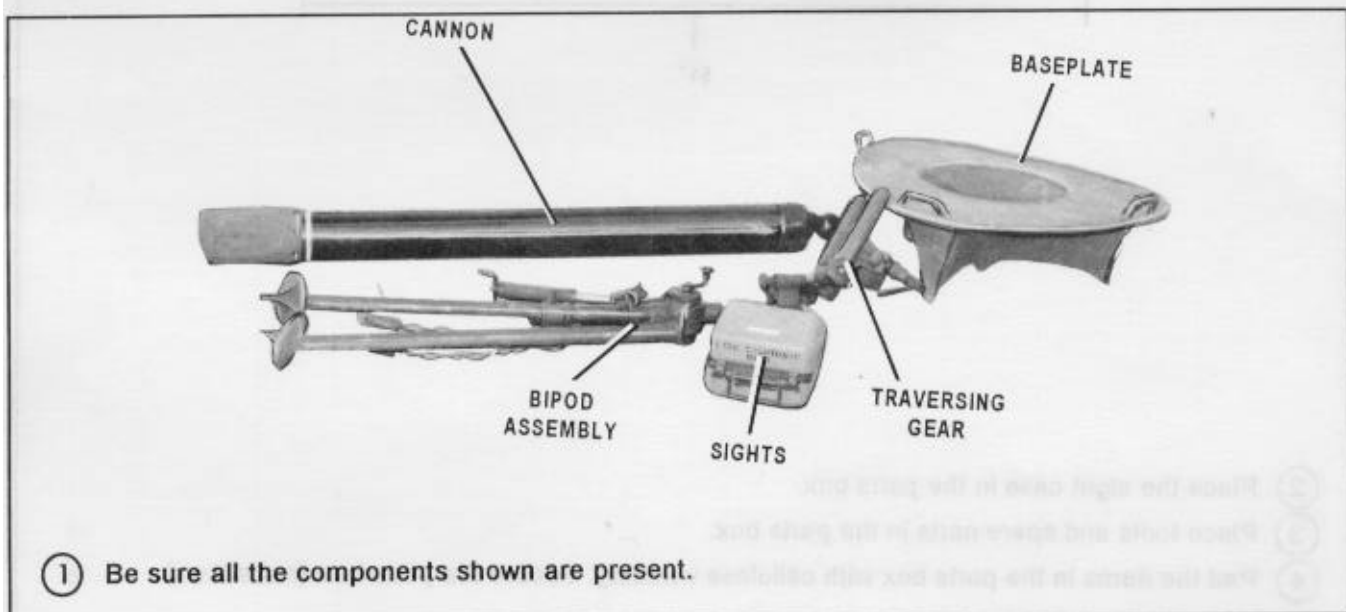
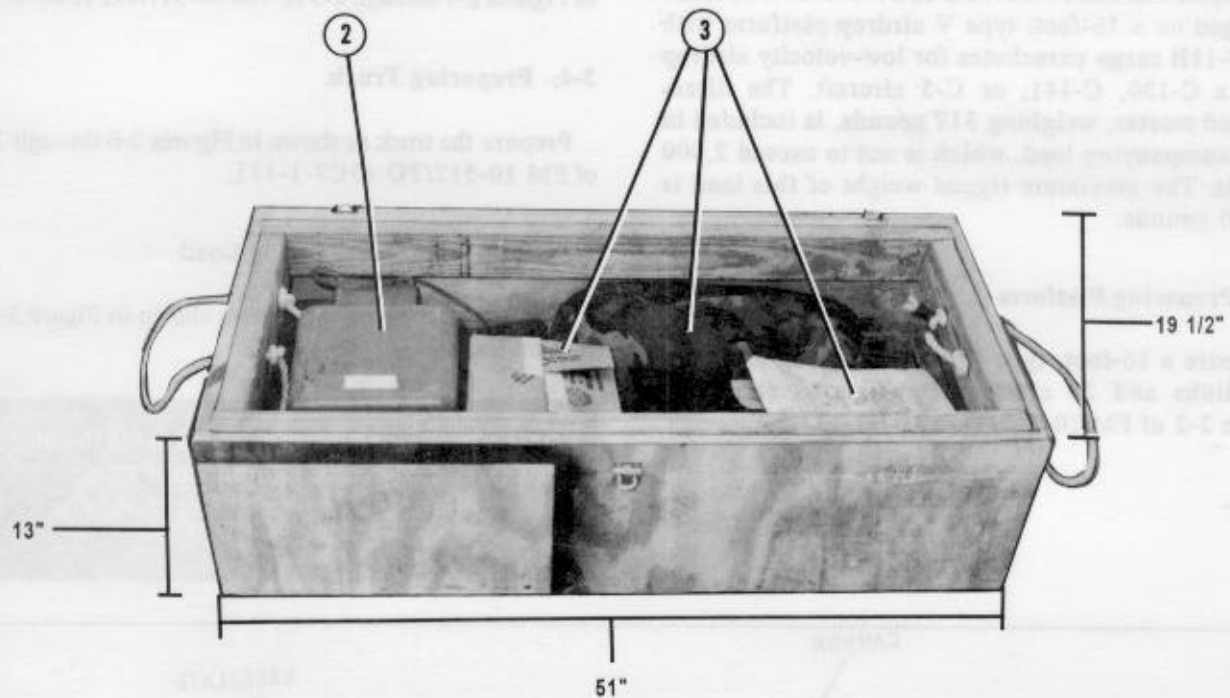


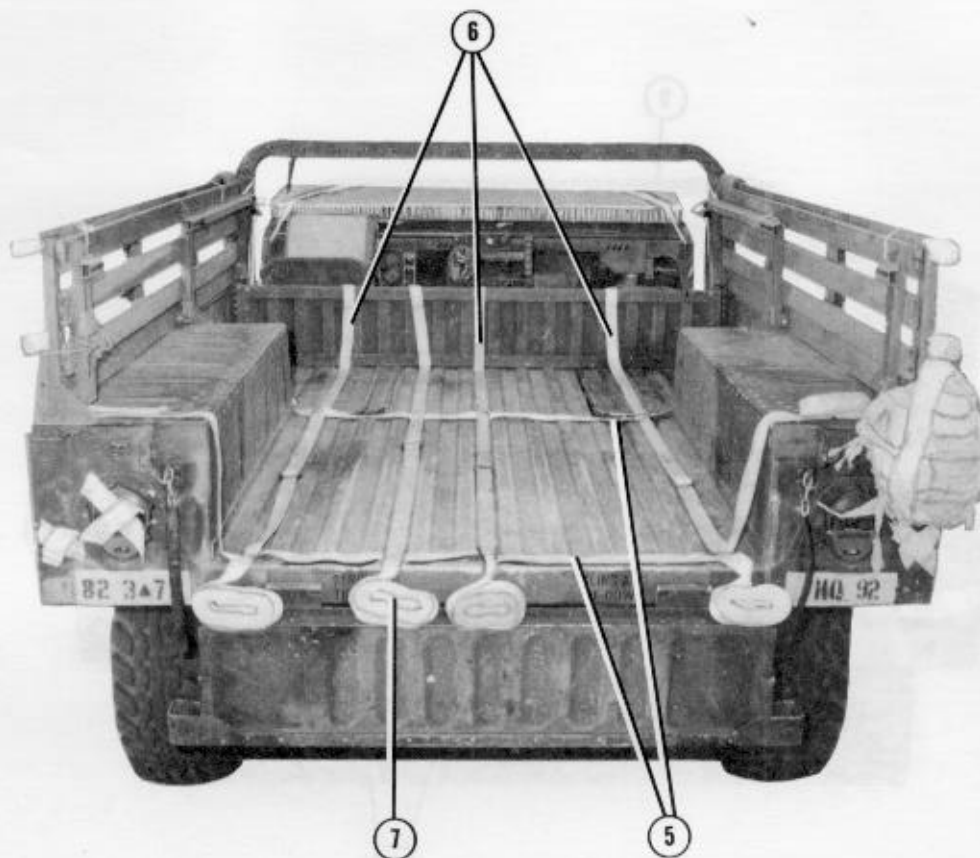
Figure 3-1. Accompanying load stowed

NOTE: THE PARTS BOX MUST NOT EXCEED THE DIMENSIONS SHOWN.



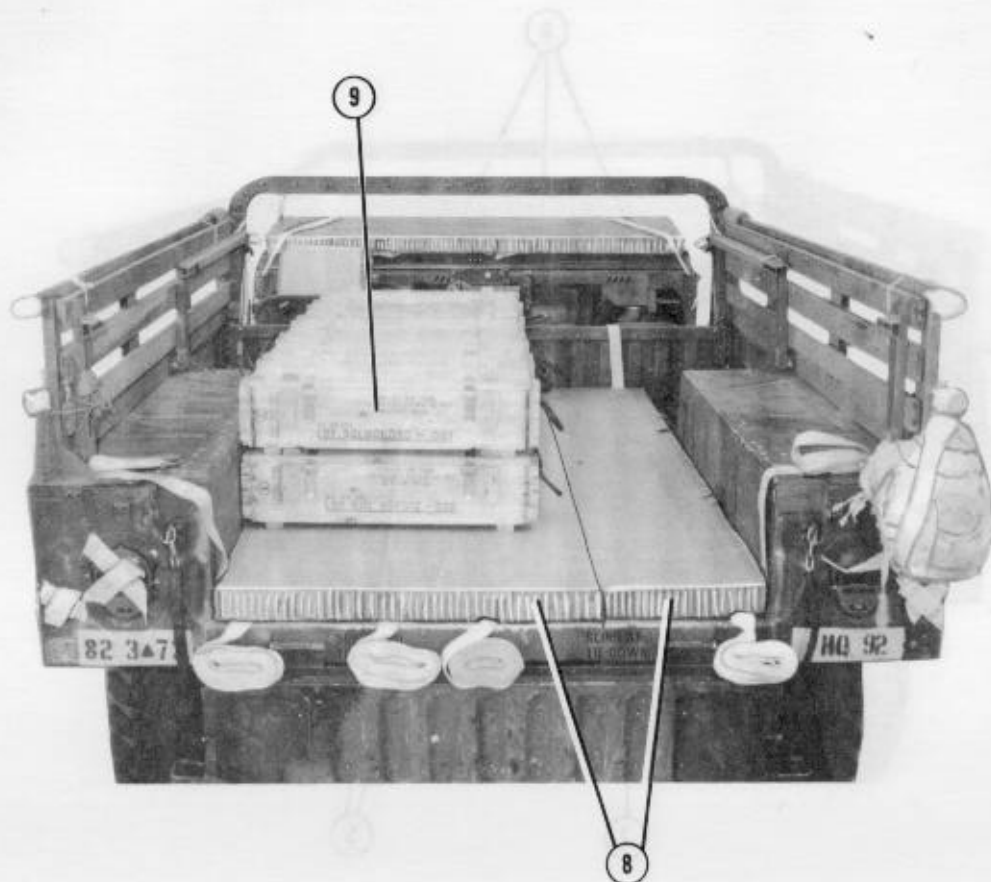
- ② Place the sight case in the parts box.
- ③ Place tools and spare parts in the parts box.
- ④ Pad the items in the parts box with cellulose wadding. Secure the parts box (not shown).

Figure 3-1. Accompanying load stowed (continued)



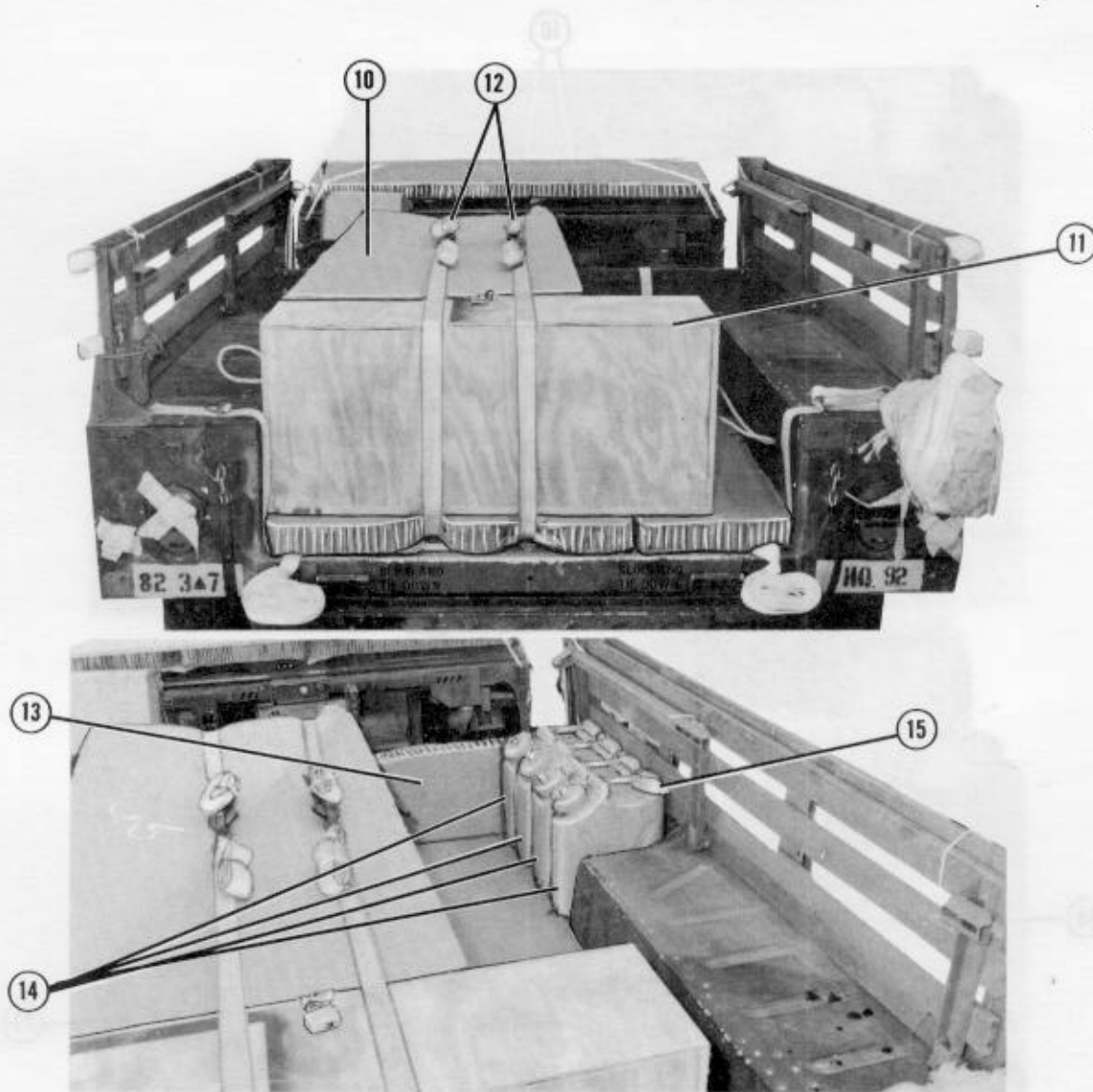
- ⑤ Lay two 15-foot lashings width-wise across the cargo bed, passing them through the center and rear tie-down rings in the cargo bed floor.
- ⑥ Form three 30-foot lashings according to FM 10-500-2/TO 13C7-1-5. Lay the lashings lengthwise across the cargo bed, passing them through the left, right, and center tie-down rings in the cargo bed floor.
- ⑦ Form an additional 30-foot lashing. Place the lashing lengthwise between the left and center tie-down rings.

Figure 3-1. Accompanying load stowed (continued)



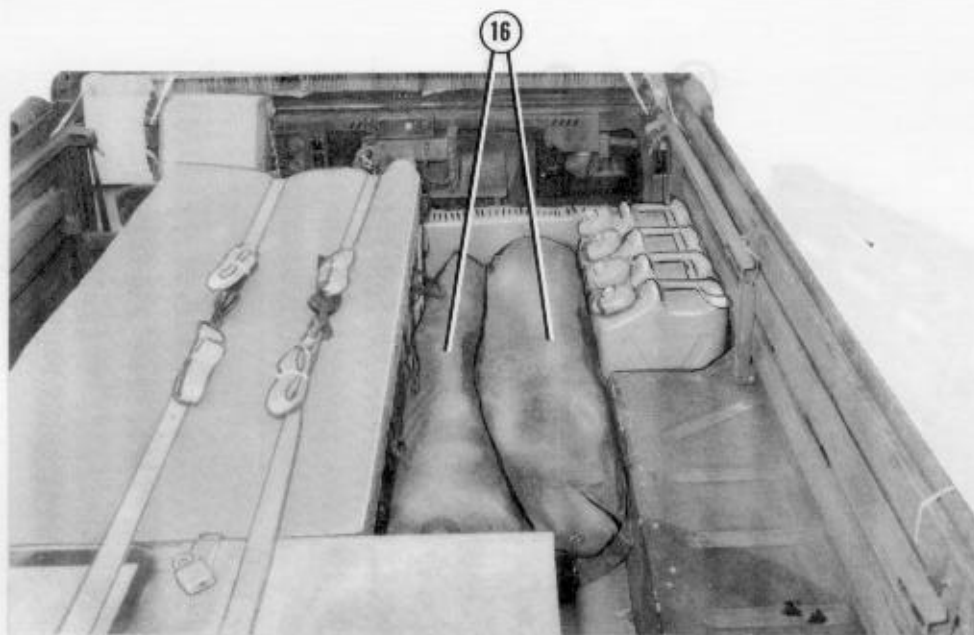
- ⑧ Cover the cargo bed using two pieces of honeycomb to make a 40- by 80-inch layer.
- ⑨ Place 10 boxes of ammunition on the left side of the cargo bed as shown.

Figure 3-1. Accompanying load stowed (continued)



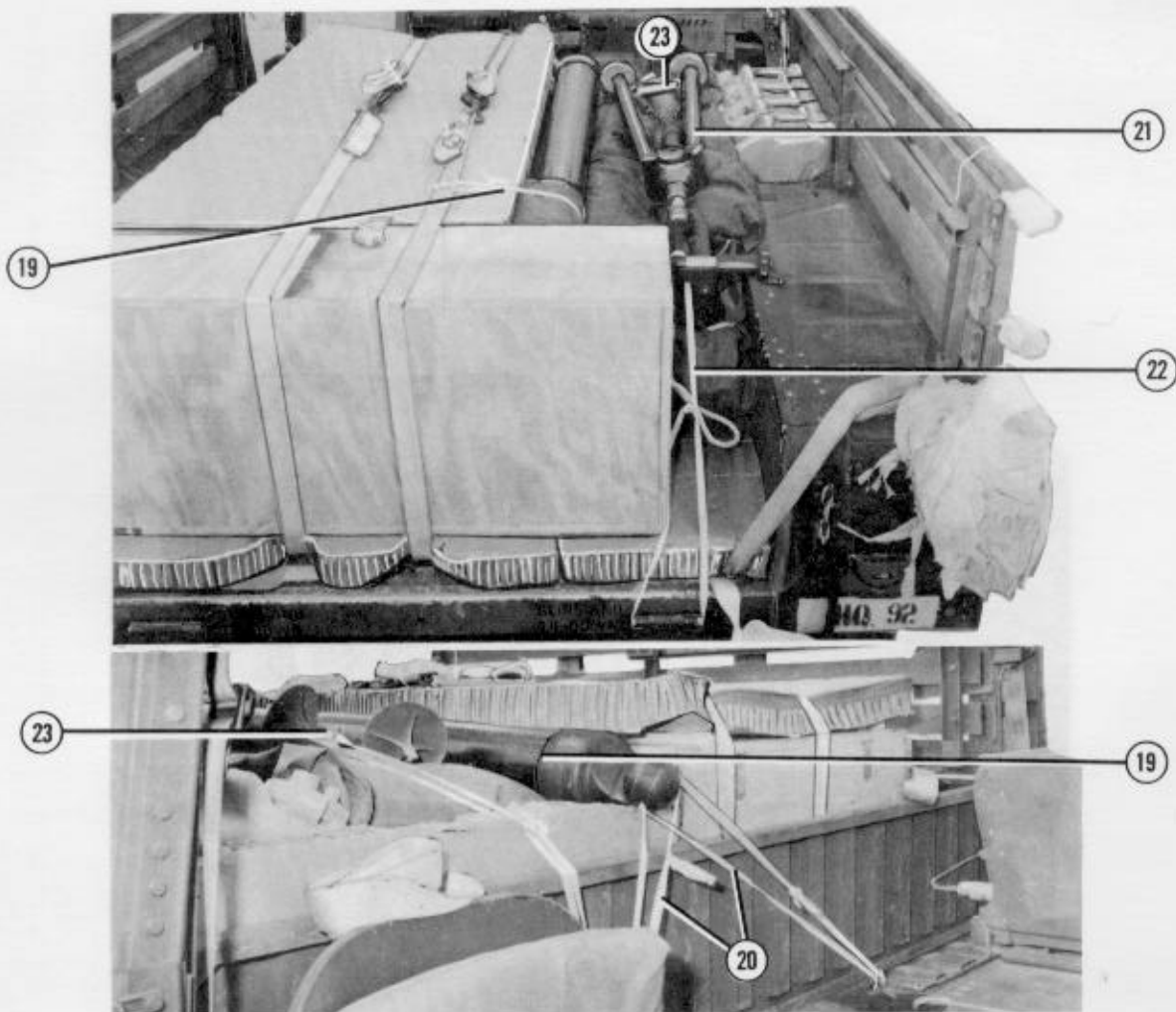
- ⑩ Place a 32- by 68-inch piece of honeycomb on top of the boxes.
- ⑪ Position the parts box flush against the boxes of ammunition.
- ⑫ Secure the center prepositioned lashings around the boxes of ammunition and parts box.
- ⑬ Place a 34- by 14-inch piece of honeycomb against the right front wall.
- ⑭ Place four cans of water or fuel in the right front corner.
- ⑮ Pass a 15-foot lashing through the can handles and around the uprights on the side rails. Secure the lashing on the outside.

Figure 3-1. Accompanying load stowed (continued)



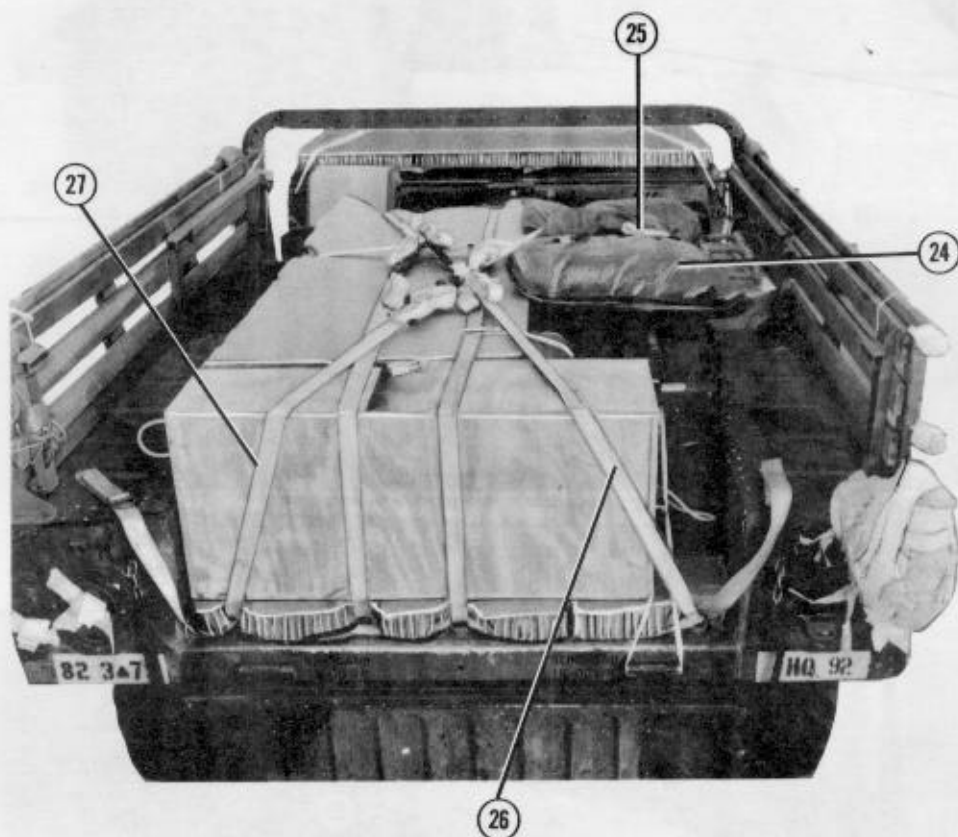
- ①⑥ Position two camouflage pole bags between the ammunition boxes and cans.
- ①⑦ Fold the cargo cover. Place the cover between the pole sets and the parts box.
- ①⑧ Position a camouflage net bag on top of the pole bags.

Figure 3-1. Accompanying load stowed (continued)



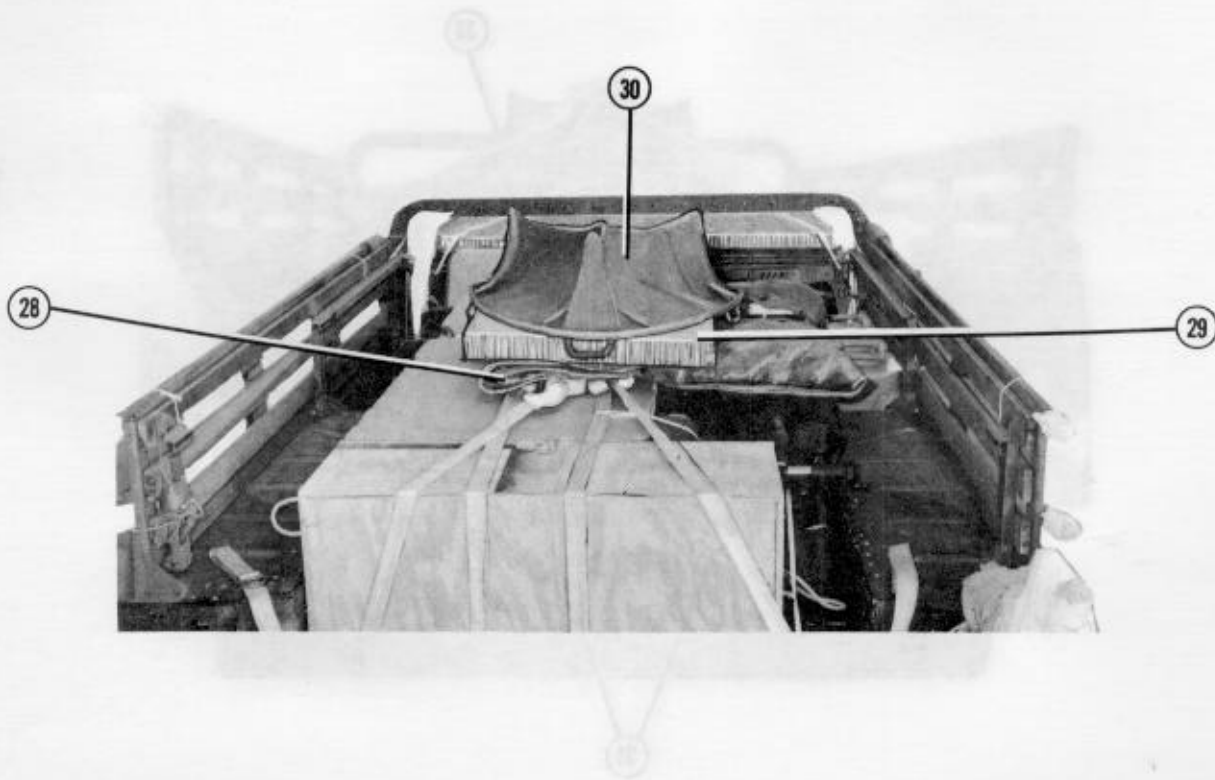
- ①⑨ Position the mortar tube on top of the net bag and against the ammunition boxes with the breech cap to the front. Tie the tube to the center lashing with 1/2-inch tubular nylon webbing.
- ②⑩ Secure the mortar by passing two lengths of 1/2-inch tubular nylon webbing through the breech cap cross bore hole and to both front tie-down rings.
- ②⑪ Place the bipod on the net bag with the extensions to the front, and the buffer assembly on the cargo cover.
- ②⑫ Pass a length of 1/2-inch tubular nylon webbing around the traversing gear assembly and around the tailgate hinge, and tie securely.
- ②⑬ Pass a length of 1/2-inch tubular nylon webbing through both bipod extension rings and tie the webbing to the right front tie-down ring.

Figure 3-1. Accompanying load stowed (continued)



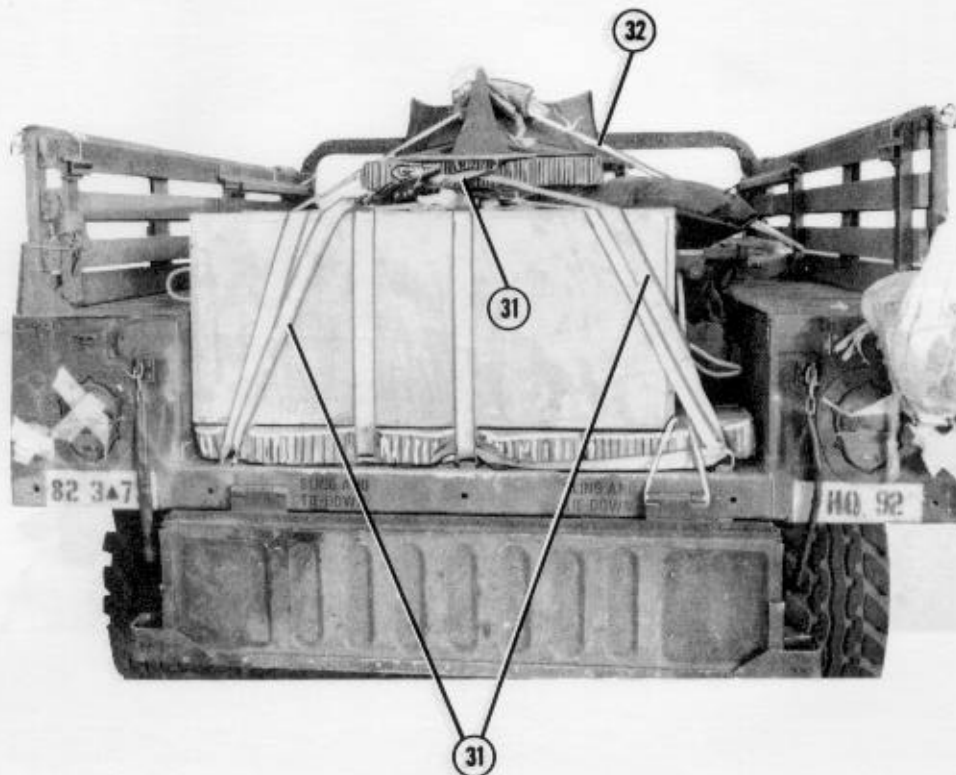
- (24) Position a second camouflage net set on top of the bipod and mortar tube.
- (25) Secure the front 15-foot lashing placed in step 5 on top of the second camouflage net.
- (26) Join the left front and right rear 30-foot lashings placed in step 6 with two D-rings and a load binder.
- (27) Join the left rear and right front 30-foot lashings placed in step 6 with two D-rings and a load binder.

Figure 3-1. Accompanying load stowed (continued)



- (28) Position the truck cab cover on top of the load binders of the secured lashings.
- (29) Position a 31- by 36-inch piece of honeycomb on top of the cab cover.
- (30) Center the mortar baseplate on the honeycomb with the center carrying handle facing down and to the rear.

Figure 3-1. Accompanying load stowed (continued)



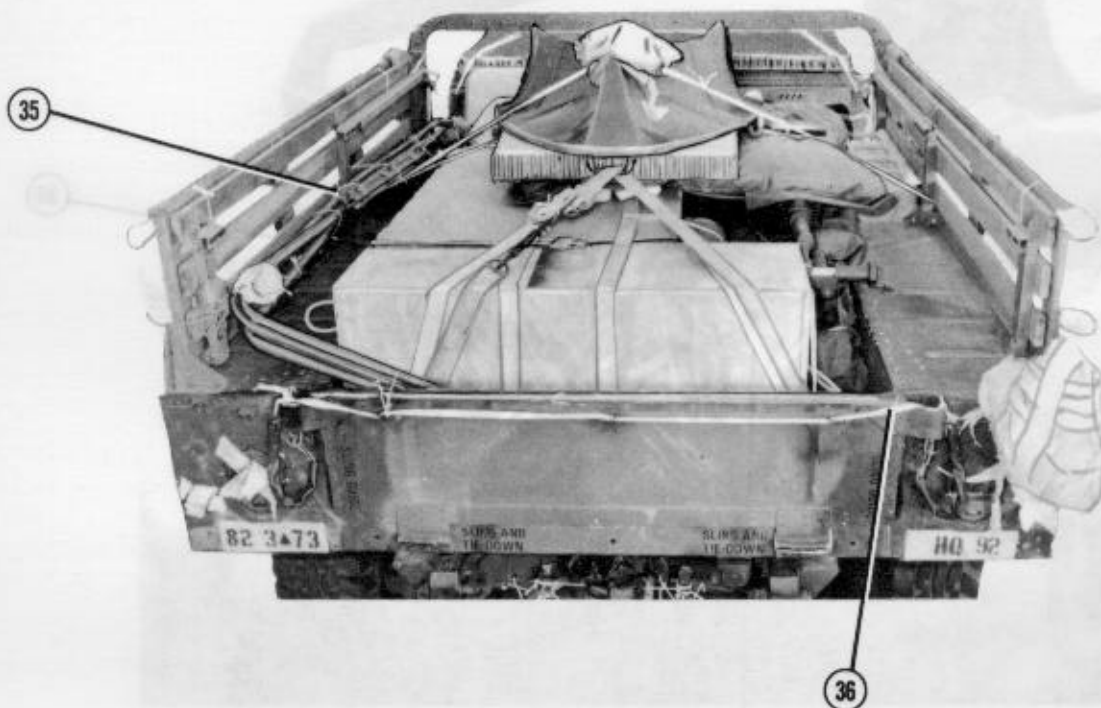
- ③① Pass the rear lashing placed in step 5 over the parts box and through the center carrying handle of the baseplate. Secure the lashing with a D-ring and a load binder.
- ③② Pass a double length of 1/2-inch tubular nylon webbing over the baseplate and secure the webbing to the left and right side rails of the truck. Pad the baseplate with cellulose wadding.

Figure 3-1. Accompanying load stowed (continued)



- ③③ Pass a 15-foot lashing through the right carrying handle of the baseplate and through the right front cargo tie-down ring. Secure the lashing with a load binder and D-ring.
- ③④ Pass a 15-foot lashing through the left carrying handle of the baseplate and through the left front cargo tie-down ring. Secure the lashing with a load binder and D-ring.

Figure 3-1. Accompanying load stowed (continued)



- ③⑤ Position the bows of the truck on the left side of the cargo bed. Secure the bows to the side rails using type III nylon cord.
- ③⑥ Close the tailgate. Secure it to the chain brackets with a single length of 1/2-inch tubular nylon webbing.

Figure 3-1. Accompanying load stowed (continued)

3-6. Installing Drive-off Aids on Platform

Install the drive-off aids on the platform as shown in Figure 2-16 of FM 10-517/TO 13C7-1-111.

3-7. Lifting and Positioning Truck and Installing Drive-off Aids

Install the lifting slings and position the truck on the platform as described in Figure 2-17, FM 10-517/TO 13C7-1-111. Install the drive-off aids and honeycomb restraint lashing as shown in Figure 2-18 of FM 10-517/TO 13C7-1-111.

3-8. Lashing Truck

Lash the truck as shown in Figures 2-19 and 2-20 of FM 10-517/TO 13C7-1-111.

3-9. Installing, Padding, and Safetying Suspension Slings

Install, pad, and safety the suspension slings as shown in Figure 2-21 of FM 10-517/TO 13C7-1-111.

3-10. Stowing Cargo Parachutes

Stow the cargo parachutes on the load as shown in Figure 2-22 of FM 10-517/TO 13C7-1-111.

3-11. Installing Parachute Release

Prepare and install an M-1 cargo parachute release according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 2-25 of FM 10-517/TO 13C7-1-111.

3-12. Installing Extraction System

Install the extraction system as shown in Figure 2-23 of FM 10-517/TO 13C7-1-111.

3-13. Installing Provisions for Emergency Restraints

Install provisions for emergency restraints according to FM 10-500-2/TO 13C7-1-5.

3-14. Placing Extraction Parachute

Place the extraction parachute as described below.

a. C-130 Aircraft. Place a 22-foot cargo extraction parachute and a 60-foot (3-loop), type XXVI nylon webbing extraction line on the load for installation in the aircraft.

b. C-141 Aircraft. Place a 22-foot cargo extraction parachute and a continuous 140-foot (3-loop), type XXVI nylon webbing extraction line on the load for installation in the aircraft.

c. C-5 Aircraft. Place a 22-foot cargo extraction parachute and a two-point 5 1/2-inch link assembly on the load for installation in the aircraft. See FM 10-500-2/TO 13C7-1-5 for extraction line requirements.

NOTE: A SLING/EXTRACTION LINE BAG MUST BE USED.

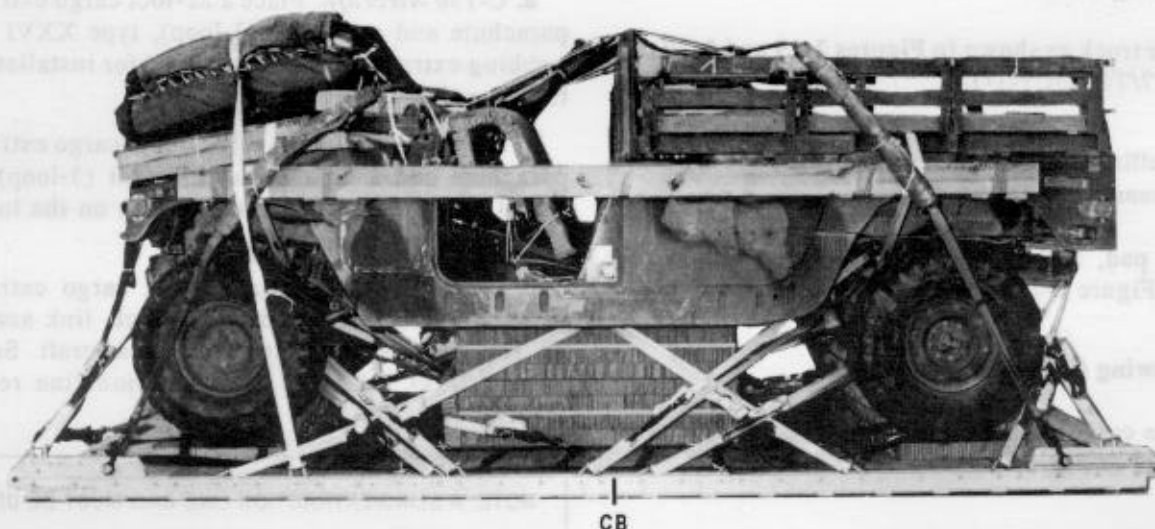
3-15. Marking Rigged Load

Mark the rigged load according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 3-2. Complete DD Form 1387-2, and securely attach it to the load. Indicate on DD Form 1387-2 that the equipment fuel tanks

and batteries have been prepared according to AFR 71-4/TM 38-250. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

CAUTION

Make the final rigger inspection required by FM 10-500-2/ TO 13C7-1-5 before the load leaves the rigging site.



RIGGED LOAD DATA

Weight:	Load shown	9,950 pounds
	Maximum load allowed	10,000 pounds
Height (with two G-11B parachutes)		86 inches
Width		108 inches
Length		215 inches
Overhang:	Front	0 inches
	Rear	0 inches
CB (from front edge of platform)		95 inches

Figure 3-2. 1 1/4-ton HMMWV truck with 120-millimeter mortar rigged for low-velocity airdrop

3-16. Equipment Required

Use the equipment listed in Table 3-1 to rig this load.

Table 3-1. Equipment required for rigging 120-mm mortar in 1 1/4-ton truck for low-velocity airdrop

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As required
	Clevis, suspension:	
4030-00-678-8562	3/4-in (medium)	6
4030-00-090-5354	1-in (large)	5
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5785	Coupling, airdrop, extraction force transfer w 16-ft cable	1
1670-00-360-0329	Cover, link assembly, type IV	3
8135-00-664-6958	Cushioning material, packaging, cellulose wadding	As required
8305-00-958-3685	Felt, 1/2-in thick	As required
1670-01-183-2678	Leaf, extraction (2 ea used for line bag)	2
	Line, extraction:	
1670-01-062-6313	60-ft (3-loop), type XXVI nylon webbing	1
1670-01-107-7651	140-ft (3-loop), type XXVI nylon webbing (for C-141)	1
	Link assembly,	
	Two-point: (for C-130)	1
5306-00-435-8994	Bolt, 1-in diam, 4-in long	(2)
5310-00-232-5165	Nut, 1-in	(2)
1670-00-003-1953	Plate, side, 3 3/4-in	(2)
5365-00-007-3414	Spacer, large	(2)
1670-00-783-5988	Type IV	3
5510-00-220-6148	Lumber, 2- by 6-in:	As required
1670-00-753-3928	Pad, energy-dissipating, honeycomb,	
	3- by 36- by 96-in:	13 sheets
	Parachute:	
	Cargo:	
1670-01-016-7841	G-11B	2
	Cargo extraction:	
1670-01-063-3716	22-ft or	1
1670-00-687-5458	22-ft (C-130 only)	1
	Platform, AD, type V, 16-ft:	1
	Bracket:	
1670-01-162-2375	Inside EFTA	(1)
1670-01-162-2374	Outside EFTA	(1)
1670-01-162-2372	Clevis, assembly (type V)	(20)
1670-01-162-2376	Extraction bracket assembly	(1)
1670-01-162-2381	Tandem link (multi-purpose)	(4)
5530-00-128-4981	Plywood, 3/4-in:	As required

Table 3-1. Equipment required for rigging 120-mm mortar in 1 1/4-ton truck for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
1670-01-097-8816	Release, cargo parachute, M-1	1
	Sling, cargo, airdrop:	
	For deployment line:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	1
	For lifting:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	2
1670-01-062-6303	12-ft (2-loop), type XXVI nylon webbing	2
	For riser extension:	
1670-01-062-6302	20-ft (2-loop), type XXVI nylon webbing	2
	For suspension:	
1670-01-063-7761	16-ft (2-loop), type XXVI nylon webbing	4
1670-00-040-8219	Strap, parachute release, multi-cut, comes w 3 knives	2
7510-00-266-5016	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tie-down assembly, 15-ft	35
1670-00-431-8486	Vehicle drive-off aid	1
	Webbing:	
8305-00-268-2411	Cotton, 1/4-inch, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-in, 1,000 lb, natural	As required
8305-00-268-2455	Nylon, tubular, 1-in, 4,000-lb, olive drab	As required
8305-00-263-3591	Nylon, type VIII, 3,600-lb	As required

GLOSSARY

ACB attitude control bar	HQ headquarters
AD airdrop	HMMWV high mobility multi-purpose wheeled vehicle
AFB Air Force base	in inch
AFJMAN armed forces joint manual	LAPE low-altitude parachute-extraction
AFR Air Force regulation	LAPES low-altitude parachute-extraction system
AFTO Air Force technical order	lb pound
ATTN attention	No number
CB center of balance	NSN national stock number
d penny	OVE on-vehicular equipment
DA Department of the Army	OVM operator vehicle maintenance
DC District of Columbia	psi pound per square inch
DD Department of Defense	TM technical manual
diam diameter	TO technical order
EFTA extraction force transfer actuator	TRADOC United States Army Training and Doctrine Command
EFTC extraction force transfer coupling	US United States
FM field manual	w with
ft feet	yd yard
gal gallon	

REFERENCES

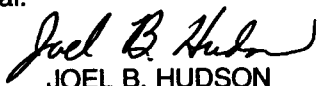
- AFJMAN 24-0204** *Packing and Materials Handling: Preparing of Hazardous Material for Military Air Shipments.* November 1994.
- AFR 71-4/TM 38-250** *Packaging and Materials Handling: Preparation of Hazardous Materials for Military Air Shipment.* 15 January 1988.
- FM 10-500-2/TO 13C7-1-5** *Airdrop of Supplies and Equipment: Rigging Airdrop Platforms.* 1 November 1990.
- FM 10-517/TO 13C7-1-111** *Airdrop of Supplies and Equipment: Rigging 1 1/4-Ton Utility Truck (HMMWV).* 14 November 1989.
- TM 9-1015-250-10** *Operator's Manual for Mortar, 120-mm. Operator's Manual For Mortar, 120 MM: Towed M120 And Mortar, 120 MM: Carrier-Mounted M121.* 15 January 1993, Superceded March 1993.
- TM 9-2320-280-10/TO 36A12-1A-2091-1/*TM 2320-10/6** *Operator's Manual for Truck, Utility.* April 1985.
- TM 10-1670-268-20&P/13C7-52-22** *Organizational Maintenance Manual with Repair Parts and Special Tools List: Type V Airdrop Platform.* 1 June 1986.
- TM 10-1670-279-23&P/TO 13C5-27-2 NAVAIR 13-1-27** *Unit and Intermediate (DS) Maintenance Manual Including Repair Parsts and Tools List for Parachute, Cargo Type: 22-foot Diameter, Cargo Extraction.* 6 November 1989.
- TM 10-1670-280-23&P/TO 13C5-31-2 NAVAIR 13-1-31** *Unit and Intermediate (DS) Maintenance Manual Parachute, Cargo Type: 100-foot Diameter, Model G-11B and Model G-11C.* 5 August 1991.
- AFTO Form 22** *Technical Order Publication Improvement Report.* April 1973.
- DA Form 2028** *Recommended Changes to Publications and Blank Forms.* February 1974.
- DD Form 1387-2** *Special Handling Data/Certification.* June 1986.

** The extra TM number is for the Marine Corps.*

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